

PATENT
Appl. No. 09/246,271
Attorney Docket No. 450117-4840

REMARKS

Favorable reconsideration of the application is respectfully requested in light of the amendments and remarks herein.

Upon entry of this amendment, claims 1-2 and 4-22 will be pending. By this amendment, claims 1, 15, 18, and 20 have been amended.

§103 Rejection of Claims 1-2, 5-12, 15-18 and 20-22

In Section 3 of the Office Action, the Examiner has rejected claims 1-2, 5-12, 15-18 and 20-22 under 35 U.S.C. §103(a) as being unpatentable over Schwaderer (U.S. Patent No. 6,393,496; hereinafter referred to as "Schwaderer") in view of Tanenbaum (Network Architecture, 1992 publication; hereinafter referred to as "Tanenbaum"). This rejection is respectfully traversed below.

Regarding claim 1, as shown above, claim 1 has been amended and calls for:

1. (Currently Amended) Method for communication between an application program and a network device driver program through intermediate structure software, comprising the steps of:
 - a. supplying of application data units from the application program to a first program object being part of the intermediate structure software;
 - b. performing of first functions of the first program object on the application data units;
 - c. supplying of resulting first data units from the first program object to a second program object being part of the intermediate structure software;
 - d. performing of second functions of the second program object on the first data units;
 - e. supplying of the resulting second data units to the network device driver program;wherein supplying data units between program objects is accomplished by passing references pointing to memory locations

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storing data of the data units such that the references are passed between program objects and the data of the data units is not passed directly between program objects, and

wherein for at least one application data unit, the memory location storing data of the application data unit is the same memory location as the memory location storing at least some of the data of the corresponding first data unit and as the memory location for storing at least some of the data of the corresponding second data unit.

Accordingly, in one aspect of claim 1, the data units are provided between program objects by passing references to the data of the data units. The references indicate memory locations storing the data of the data units. The data of the data units are not passed directly. As a result, the data for data units do not need to be copied for each transfer between program objects and so the transfers can be made more quickly. (See, e.g., the Specification at page 12, lines 7-25.)

Considering the Examiner's rejection of claim 1 in Sections 3 and 7 of the Office Action as applied to amended claim 1, it does not appear that the arguments presented by the Examiner in rejecting claim 1 over Schwaderer and Tanenbaum in Sections 3 and 7 of the Office Action establish how the cited combination of Schwaderer and Tanenbaum shows or suggests amended claim 1. In Sections 3 and 7, the Examiner refers to pages 21 and 22 of Tanenbaum and appears to argue that this portion of Tanenbaum shows passing references as called for in claim 1. The Examiner states on page 6 of the Office Action:

"... Tanenbaum (last paragraph page 21 to second complete paragraph page 22) teaches Service Data Units being passed through the layers, which is the information needed to help the lower layer do its job, but is not part of the data. The data is maintained in the same location."

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However, it appears that the Examiner is referring to the control information, rather than the Service Data Units discussed in this portion of Tanenbaum. In the paragraph crossing from page 21 to page 22, Tanenbaum states (emphasis added):

“In order for two layers to exchange information, there has to be an agreed upon set of rules about the interface. At a typical interface, the layer N + 1 entity passes an IDU (Interface Data Unit) to the layer N entity through the SAP as shown in Fig. 1-9. The IDU consists of an SDU (Service Data Unit) and some control information. The SDU is the information passed across the network to the peer entity and then up to layer N + 1. The control information is needed to help the lower layer do its job (e.g., the number of bytes in the SDU), but is not part of the data itself.”

Therefore, it is clear that the SDU is the information passed between layers and so Tanenbaum appears to discuss passing the information or data between layers. It does not appear that Tanenbaum describes that the SDU or the control information for the SDU (the interface control information, or ICI) includes a reference to a memory location as called for in claim 1. The SDU stores the data and the SDU is passed between layers. In contrast, in claim 1, a reference to a memory location is passed between program objects. Without further explanation by the Examiner, it is submitted that the Examiner has not established how the cited combination of Schwaderer and Tanenbaum shows or suggests this aspect of claim 1.

Furthermore, it does not appear that the Examiner has explained how this passage of Tanenbaum addresses keeping the data for the data units in the same memory location as called for in claim 1. The Examiner states on page 6: “The data is maintained in the same memory location” without elaboration. It is not clear how Tanenbaum shows that the data for the data units is kept in the same memory location. It does not appear that this passage in Tanenbaum (page 21 to 22) addresses memory locations at all. Again, without further explanation by the

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Examiner, it is submitted that the Examiner has not established how the cited combination of Schwaderer and Tanenbaum shows or suggests this aspect of claim 1.

Accordingly, it does not appear that the Examiner has established how the cited combination of Schwaderer and Tanenbaum, as referenced by the Examiner in rejecting claim 1, shows or suggests at least these aspects of amended claim 1, and so it is submitted that the Examiner has not established how the cited combination of Schwaderer and Tanenbaum shows or suggests amended claim 1 as a whole. Claims 2, 4-14, and 19-22 depend from claim 1, and it is also submitted that the Examiner has not established how the cited combination of Schwaderer and Tanenbaum shows or suggests claims 2, 4-14, and 19-22, through their dependence on claim 1. Similar arguments apply to claims 15 and 18, and so to claims 16-17 that depend from claim 15.

Regarding claim 20, as shown above, claim 20 has been amended and calls for:

20. (Currently Amended) Method according to claim 10, wherein at least two data units referenced by a service data unit are stored in non-contiguous portions of memory.

Accordingly, in claim 20, for at least one service data unit, at least two data units referenced by the service data unit are stored in non-contiguous portions of memory. (See, e.g., Figures 5-7.) The Examiner appears to refer to the same passage in Tanenbaum (pages 21-22) to show claim 20. However, as discussed above, it does not appear that this passage of Tanenbaum addresses how data is stored and so does not appear to address storing the data units referenced by a service data unit in non-contiguous portions of memory. For this reason as well, it is submitted that the Examiner has not established how the cited combination of Schwaderer and Tanenbaum, as referenced by the Examiner, shows or suggests claim 20.

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Regarding claim 22, as shown above, claim 22 calls for:

22. (Previously Presented) Method according to claim 1, further comprising creating a service data unit for each application data unit, each service data unit including a size value indicating the size of data of the application data unit and an offset value indicating the memory location storing data of the application data unit,

wherein supplying data units between program objects by passing references includes passing service data units corresponding to the supplied data units.

Accordingly, in one aspect of claim 22, the service data unit for an application data unit includes a size value and an offset value. The size value and offset value indicate aspects of the data and memory location referenced by the service data unit. (See, e.g., Figure 5-7. On page 6 of the Office Action, the Examiner states:

"... Tanenbaum (second complete paragraph page 22) teaches PDU containing data control information providing sequence numbers and counts."

It appears the Examiner argues that the PDU shows the service data unit of claim 22. However, the size value in claim 22 indicates the size of data of the application data unit and the offset value indicates the memory location storing data of the application data unit. It appears that the sequence number and count of PDU's are related to packetizing data from an SDU to a PDU. In the referenced paragraph, Tanenbaum states: "In order to transfer the SDU, the layer N entity may have to fragment it into several pieces, each of which is given a header and sent as a separate PDU (Protocol Data Unit) such as a packet." It does not appear that this passage addresses memory locations. For this reason as well, it is submitted that the Examiner has not established how the cited combination of Schwaderer and Tanenbaum, as referenced by the Examiner, shows or suggests claim 22.

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Based upon the foregoing, it is submitted that claims 1-2, 5-12, 15-18 and 20-22 are not anticipated by nor rendered obvious by the teachings of Schwaderer and Tanenbaum, as presented and referenced by the Examiner. Accordingly, it is submitted that the Examiner's rejection of claims 1-2, 5-12, 15-18 and 20-22 based upon 35 U.S.C. §103(a) has been overcome by the present remarks and withdrawal thereof is respectfully requested.

§103 Rejection of Claims 4, 13, and 19

In Section 5 of the Office Action, the Examiner has rejected claims 4, 13, and 19 under 35 U.S.C. §103(a) as being unpatentable over Schwaderer in view of Tanenbaum, and further in view of Jardine (U.S. Patent No. 5,619,647; hereinafter referred to as "Jardine"). This rejection is respectfully traversed below.

Claims 4, 13, and 19 depend from claim 1. As discussed above, it is submitted that the rejection of claim 1 has been overcome. Therefore, it is respectfully submitted that the rejection of claims 4, 13, and 19 has also been overcome through the dependence of claims 4, 13, and 19 on claim 1.

Based upon the foregoing, it is submitted that claims 4, 13, and 19 are not anticipated by nor rendered obvious by the teachings of Schwaderer, Tanenbaum, and Jardine, as presented and referenced by the Examiner. Accordingly, it is submitted that the Examiner's rejection of claims 4, 13, and 19 based upon 35 U.S.C. §103(a) has been overcome by the present remarks and withdrawal thereof is respectfully requested.

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§103 Rejection of Claim 14

In Section 6 of the Office Action, the Examiner has rejected claim 14 under 35 U.S.C. §103(a) as being unpatentable over Schwaderer in view of Tanenbaum, and further in view of Phillips (U.S. Patent No. 6,289,393; hereinafter referred to as "Phillips"). This rejection is respectfully traversed below.

Claim 14 depends from claim 1. As discussed above, it is submitted that the rejection of claim 1 has been overcome. Therefore, it is respectfully submitted that the rejection of claim 14 has also been overcome through the dependence of claim 14 on claim 1.

Based upon the foregoing, it is submitted that claim 14 is not anticipated by nor rendered obvious by the teachings of Schwaderer, Tanenbaum, and Phillips, as presented and referenced by the Examiner. Accordingly, it is submitted that the Examiner's rejection of claims 4, 13, and 19 based upon 35 U.S.C. §103(a) has been overcome by the present remarks and withdrawal thereof is respectfully requested.

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CONCLUSION

In view of the foregoing, entry of this amendment, and the allowance of this application with claims 1-2 and 4-22 is respectfully solicited.


In regard to the claims amended herein and throughout the prosecution of this application, it is submitted that these claims, as originally presented, are patentably distinct over the prior art of record, and that these claims were in full compliance with the requirements of 35 U.S.C. §112. Changes to these claims, as presented herein, are not made for the purpose of patentability within the meaning of 35 U.S.C. §§101, 102, 103 or 112. Rather, these changes are made simply for clarification and to round out the scope of protection to which Applicants are entitled.

In the event that additional cooperation in this case may be helpful to complete its prosecution, the Examiner is cordially invited to contact Applicants' representative at the telephone number written below.

The Commissioner is hereby authorized to charge any insufficient fees or credit any overpayment associated with the above-identified application to Deposit Account 50-0320.

Respectfully submitted,

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